



11609-10

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Jörg Kegeler  
Filing Date January 3, 2006  
U.S. Patent Application No. 10/563,196

FOR: PLANAR DIRECT DRIVE UNIT COMPRISING A POSITION MEASURING  
SYSTEM

Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

COMMUNICATION

Sir:

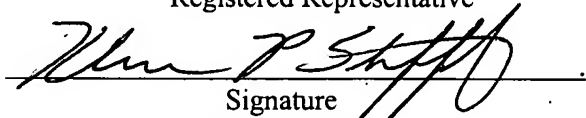
Enclosed please find a copy of a translation of the international preliminary examination  
report.

Favorable action on the present application is respectfully requested.

I hereby certify that this correspondence is being  
deposited with the United States Postal Service with  
sufficient postage as First Class Mail in an envelope  
addressed to: Commissioner for Patents, P.O. Box  
1450, Alexandria, Virginia 22313-1450:

Klaus P. Stoffel

Name of applicant, assignee or  
Registered Representative

  
Signature  
June 19, 2006

Date of Signature

KPS:mj

Enclosures

Respectfully submitted,



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From the INTERNATIONAL BUREAU

**PCT**

NOTIFICATION OF TRANSMITTAL  
OF COPIES OF TRANSLATION  
OF THE INTERNATIONAL PRELIMINARY REPORT  
ON PATENTABILITY  
(CHAPTER I OR CHAPTER II  
OF THE PATENT COOPERATION TREATY)  
(PCT Rules 44bis.3(c) and 72.2)

To:



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Engel & Welhrauch  
Marktplatz 6  
98527 Suhl  
ALLEMAGNE

patentanwaltskanzlei

14. JUNI 2006

EINGEGANGEN

Fax | Mail vorab:

Date of mailing (day/month/year)

08 June 2006 (08.06.2006)

Applicant's or agent's file reference

0266/04/PCT

IMPORTANT NOTIFICATION

International application No.

PCT/EP2004/007042

International filing date (day/month/year)

29 June 2004 (29.06.2004)

Applicant

INA-DRIVES &amp; MECHATRONICS GMBH &amp; CO OHG et al

## 1. Transmittal of the translation to the applicant.



The International Bureau transmits herewith a copy of the English translation of the international preliminary report on patentability (Chapter I).



The International Bureau transmits herewith a copy of the English translation of the international preliminary report on patentability (Chapter II).

## 2. Transmittal of the copy of the translation to the designated or elected Offices.

The International Bureau notifies the applicant that copies of that translation have been transmitted to the following designated or elected Offices requiring such translation:

None

The following designated or elected Offices, having waived the requirement for such a transmittal at this time, will receive copies of that translation from the International Bureau only upon their request:

AE, AG, AL, AM, AP, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EA, EC, EE, EG, EP, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OA, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

## 3. Reminder regarding translation into (one of) the official language(s) of the elected Office(s).

The applicant is reminded that, where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary report on patentability (Chapter II).

It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned within the applicable time limit (Rule 74.1). See Volume II of the PCT Applicant's Guide for further details.

The International Bureau of WIPO  
34, chemin des Colombettes  
1211 Geneva 20, Switzerland

Authorized officer

Agnes Wittmann-Regis

Facsimile No.+41 22 740 14 35

Facsimile No.+41 22 338 89 70



# PATENT COOPERATION TREATY

# PCT

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY (Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference 0266/04/PCT	FOR FURTHER ACTION		See item 4 below
International application No. PCT/EP2004/007042	International filing date ( <i>day/month/year</i> ) 29 June 2004 (29.06.2004)	Priority date ( <i>day/month/year</i> ) 02 July 2003 (02.07.2003)	
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237			
Applicant INA-DRIVES & MECHATRONICS GMBH & CO OHG			

1. This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 *bis*.1(a).
  2. This REPORT consists of a total of 8 sheets, including this cover sheet.
- In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.

3. This report contains indications relating to the following items:
 

<input checked="" type="checkbox"/> Box No. I	Basis of the report
<input checked="" type="checkbox"/> Box No. II	Priority
<input type="checkbox"/> Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
<input type="checkbox"/> Box No. IV	Lack of unity of invention
<input checked="" type="checkbox"/> Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
<input type="checkbox"/> Box No. VI	Certain documents cited
<input type="checkbox"/> Box No. VII	Certain defects in the international application
<input type="checkbox"/> Box No. VIII	Certain observations on the international application
4. The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis .2).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland  Facsimile No. +41 22 740 14 35 Form PCT/IB/373 (January 2004)	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">Date of issuance of this report 29 May 2006 (29.05.2006)</td> </tr> <tr> <td style="padding: 5px;">Authorized officer  <div style="text-align: center; font-weight: bold;">Agnes Wittmann-Regis</div></td> </tr> <tr> <td style="padding: 5px;">Telephone No. +41 22 338 89 70</td> </tr> </table>	Date of issuance of this report 29 May 2006 (29.05.2006)	Authorized officer  <div style="text-align: center; font-weight: bold;">Agnes Wittmann-Regis</div>	Telephone No. +41 22 338 89 70
Date of issuance of this report 29 May 2006 (29.05.2006)				
Authorized officer  <div style="text-align: center; font-weight: bold;">Agnes Wittmann-Regis</div>				
Telephone No. +41 22 338 89 70				



# PATENT COOPERATION TREATY

Translation

From the  
INTERNATIONAL SEARCHING AUTHORITY

To:

## PCT

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

<div style="border: 1px solid black; width: 100%; height: 100%;"></div>		Date of mailing (day/month/year)
Applicant's or agent's file reference <b>0266/04/PCT</b>		<b>FOR FURTHER ACTION</b> See paragraph 2 below
International application No. <b>PCT/EP2004/007042</b>	International filing date (day/month/year) <b>29.06.2004</b>	Priority date (day/month/year) <b>02.07.2003</b>
International Patent Classification (IPC) or both national classification and IPC		
Applicant <b>INA-DRIVES &amp; MECHATRONICS GMBH &amp; CO OHG</b>		

1. This opinion contains indications relating to the following items:

<input checked="" type="checkbox"/>	Box No. I	Basis of the opinion
<input checked="" type="checkbox"/>	Box No. II	Priority
<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
<input type="checkbox"/>	Box No. IV	Lack of unity of invention
<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
<input type="checkbox"/>	Box No. VI	Certain documents cited
<input type="checkbox"/>	Box No. VII	Certain defects in the international application
<input type="checkbox"/>	Box No. VIII	Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/EP	Authorized officer
Facsimile No.	Telephone No.



WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

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Box No. I

Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.  
☐ This opinion has been established on the basis of a translation from the original language into the following language  
\_\_\_\_\_, which is the language of a translation furnished for the purposes of international search (under Rule 12.3 and 23.1(b)).
2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material  
☐ a sequence listing  
☐ table(s) related to the sequence listing
  - b. format of material  
☐ in written format  
☐ in computer readable form
  - c. time of filing/furnishing  
☐ contained in the international application as filed.  
☐ filed together with the international application in computer readable form.  
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:



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INTERNATIONAL SEARCHING AUTHORITY

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Box No. II

Priority

1. ☒ The following document has not yet been furnished:

☒ copy of the earlier application whose priority has been claimed (Rule 43bis.1 and 66.7(a)).

☐ translation of the earlier application whose priority has been claimed (Rule 43bis.1 and 66.7(b)).

Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date in the claimed priority date.

2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43bis.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.

3. Additional observations, if necessary:



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Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	<u>1-21</u>	YES
	Claims	_____	NO
Inventive step (IS)	Claims	<u>1-21</u>	YES
	Claims	_____	NO
Industrial applicability (IA)	Claims	<u>1-21</u>	YES
	Claims	_____	NO

2. Citations and explanations:

1 In the present opinion, reference is made to the following documents:

D1: DE 195 31 520 A (HEISEL UWE PROF DR ING DR H C;  
RICHTER FRANK DIPL ING (DE)) 23 January 1997  
(1997-01-23)

D2: US 5 126 648 A (JACOBS FRED) 30 June 1992  
(1992-06-30)

2 Document D1 is considered to be the closest prior art. It discloses:

a planar direct drive comprising a planar running face (14) (corresponds to the passive unit), an air bearing and displaceable magnetic runners (17) (correspond to the active units) (see D1, column 3, lines 1-10, column 5, lines 34-43). A distance measuring system is provided for determining the position of the runners relative to one another, but D1 does not disclose how this system is constructed (see D1, column 3, lines 50-56).



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Box No. V

Reasoned statement under Rule 43bis.1(a)(I) with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement

The subject matter of independent claim 1 therefore differs from this in that:

The position measuring system is formed from a moving component (of the material measure) and a quasi-stationary component (the measuring sensor), both components being arranged outside the bearing gap at a distance from the running surface, and the quasi-stationary component being arranged offset at a securing point parallel to the running surface and the moving component being attached to the active unit in such a way that when the quasi-stationary component is reached it engages with it in a measuring operation and is then adjusted to the position signals supplied by the measuring sensor.

2.1 The subject matter of claim 1 is thus novel (PCT Article 33(2)). The problem addressed by the present invention can therefore be considered to be that

within a predefined measuring area an increased positioning accuracy is to be achieved and that the passive unit or the running surface formed on it is no longer integrated into the measuring chain.

2.2 The solution proposed to this problem in claim 1 of the present application involves an inventive step (PCT Article 33(3)) for the following reasons:



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Box No. V

Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement

The idea of a two-stage control with coarse and fine positioning is known from D2 (see D2, column 5, line 57 - column 6, line 16, figure 2a). However, D2 uses, both for coarse positioning and fine positioning, a sensor arrangement in which the material mass is provided within the bearing gap and on the respective passive unit (12 and 20) - (see D2, column 6, lines 46-68 and column 7, lines 56-61). In contrast, claim 1 avoids integrating the running surface into the measuring chain and thus prevents degradation of the magnetic flux.

2.3 Claims 2-21 are dependent on claim 1 and thus also meet the PCT requirements for novelty and inventive step.

3 All of claims 1-21 are industrially applicable (PCT Article 33(4)).

4 Further comments

4.1 Claims 5, 6, 7: In these claims, reference sign (20) is used both for the securing module (20) and for the working module (20). For reasons of clarity uniform terminology should be used (PCT Article 6 and PCT Rule 10.2).

4.2 It appears that in the drawings page 6 contains figures 7 and 8 (not figure 6).



WRITTEN OPINION OF THE  
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Box No. V

Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement

- 4.3 If the application is pursued in the regional phase before the EPO, we request that D1 and D2 be cited as prior art in the description.